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Notice of Allowability	Application No.		Applicant(s)	
	09/894,486		MOONEY ET AL.	
	Examiner		Art Unit	
	Cassandra Cox		2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 09/28/06.
2. ☒ The allowed claim(s) is/are 2-17 and 19-28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

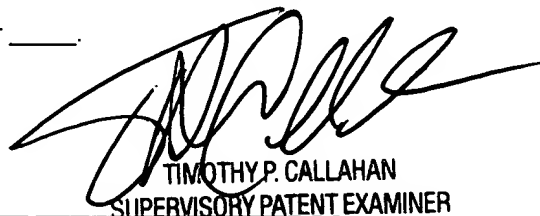
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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 TIMOTHY P. CALLAHAN
 SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Allowable Subject Matter

1. Claims 2-17 and 19-28 are allowed.
2. The following is an examiner's statement of reasons for allowance: Claims 2-8 are allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein each differential transistor pair (402, 412, 432, 442) is configured to receive a different phase (P0, P1, P2, P3) of a clock signal (CLOCK IN) in combination with the rest of the limitations of the base claims and any intervening claims. Claim 9 is allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein at least one first differential pair (402) of the plurality of differential transistor pairs is responsive to a first clock phase (P0) and at least one second differential transistor pair (412) of the plurality of differential transistor pairs is responsive to a second clock phase (P2) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 10-13 are allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the interpolator circuit further comprises a first differential transistor pair (402) responsive to a first clock phase (P0) and a second differential transistor pair (412) is responsive to a second clock phase (P2) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 14-17 are allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the interpolator further includes a differential amplifier (470) coupled to the differential output nodes (410, 411) of a first *plurality of differential transistor pairs* (402, 412) and a second

plurality of differential transistor pairs (432, 442) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 19-28 are allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 7 wherein the integrated circuit further comprises a third differential transistor pair (706) coupled in parallel with the first differential transistor pair (702) between the first differential output node (710, 711) and the first current source (720) in combination with the rest of the limitations of the base claims and any intervening claims. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 571-272-1741. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 1, 2006